Abstract
This talk explores new modes of technical communication. Several years ago, Dr. Keener was asked by a Japanese colleague to investigate new developments abroad related to 6-axis robotic arms. He identified a promising Kickstarter and pre-ordered a prototype. Eight months later, he was able to coax the creators in France to send one of the first units off the production line.

This Kickstarter had several interesting facets. The robot is built out of 3D printable parts and is based primarily on open-source standards (e.g., ROS, Arduino, Raspberry Pi, CAN 2.0B, etc.). Moreover, the robot kit didn’t contain a written assembly manual. Assembly instructions were provided through a series of long YouTube videos without any verbal explanation, which he watched over and over to build the robot.

The experience of building a robot encouraged him to build a 3D printer from a small Czech company. This kit came with a paper instruction manual the size of a phone book and an online manual which has been translated into 7 languages. The online manual includes notes from other users who have built the kit which provide useful hints on how to get through the hundreds of steps and resolve common problems along the way.

Having devoted several decades to supporting international collaborative IT projects, Dr. Keener sees great promise for new styles of communication to enhance entrepreneurship. In an era where smartphone apps are designed to have intuitive interfaces that are not documented with long written user manuals, there are new opportunities for people all over the world that do not require perfect fluent foreign language skills.

Biography
Thirty years ago, as a graduate student, Dr. Keener embarked on an express train from Ueno station in Tokyo into the mountains of Nagano to investigate why over 400 small factories had started in a small town of 16,000 (1:40 entrepreneur ratio). He ended up foregoing an academic career and starting his own company. His career over the last three decades has involved adapting the software solutions of innovative American companies to the conservative and detail-oriented standards of Japanese companies.

He has documented some of his recent explorations on YouTube (https://www.youtube.com/c/ReluctantRoboticist).